WHAT IS CLAIMED IS:

1. (withdrawn) A polynucleotide comprising a nucleic acid sequence encoding a chimeric polypeptide, said chimeric polypeptide including:

(a) a first polypeptide region being capable of specifically binding at least one detectable molecule; and

(b) a second polypeptide region being capable of:

(i) specifically binding a biological component or macromolecule; or

(ii) targeting into a specific cell compartment.

2. (withdrawn) The polynucleotide of claim 1, wherein said detectable molecule includes a signal generating moiety selected from the group consisting of a fluorogenic moiety, a chromogenic moiety, a light emitting moiety and a radioactive moiety.

3. (withdrawn) The polynucleotide of claim 2, wherein said fluorogenic moiety is selected from the group consisting of coumarins, xanthene dyes, fluoresceins, rhodols, rhodamines, resorufins, cyanine dyes, bimanes, acridines, isoindoles, dansyl dyes, aminophthalic hydrazides, luminol, aminophthalimides, aminonaphthalimides, aminobenzofurans, aminoquinolines, dicyanohydroquinones, europium and terbium complexes.

4. (withdrawn) The polynucleotide of claim 1, wherein said first polypeptide region includes an antigen binding region of an antibody.

5. (withdrawn) The polynucleotide of claim 4, wherein said antigen binding region is an Fv region.

6. (withdrawn) The polynucleotide of claim 5, wherein said antigen binding region is a single chain Fv.

7. (withdrawn) A nucleic acid construct comprising the polynucleotide of claim 1.

8. (withdrawn) The nucleic acid construct of claim 7 further comprising a promoter being for directing expression of said polynucleotide.

9. (withdrawn) A cell comprising the polynucleotide of claim 1.

10. (withdrawn) A chimeric polypeptide comprising:

(a) a first polypeptide region being capable of specifically binding at least one detectable molecule; and

(b) a second polypeptide region being capable of:

(i) specifically binding a biological component or macromolecule; or

(ii) targeting into a specific cell compartment.

11. (withdrawn) The chimeric polypeptide of claim 10, wherein said detectable molecule includes a signal generating moiety selected from the group consisting of a fluorogenic moiety, a chromogenic moiety, a light emitting moiety and a radioactive moiety.

12. (withdrawn) The chimeric polypeptide of claim 10, wherein said fluorogenic moiety is selected from the group consisting of coumarins, xanthene dyes, fluoresceins, rhodols, rhodamines, resorufins, cyanine dyes, bimanes, acridines, isoindoles, dansyl dyes, aminophthalic hydrazides, luminol, aminophthalimides, aminonaphthalimides, aminobenzofurans, aminoquinolines, dicyanohydroquinones, europium and terbium complexes.

13. (withdrawn) The chimeric polypeptide of claim 10, wherein said first polypeptide region includes an antigen binding region of an antibody.

14. (withdrawn) The chimeric polypeptide of claim 13, wherein said antigen binding region is an Fv region.

15. (withdrawn) The chimeric polypeptide of claim 14, wherein said antigen binding region is a single chain Fv.

16. (original) A method of highlighting a cell compartment, a biological component or macromolecule in an organism comprising:

(a) providing a chimeric polypeptide to the organism, said chimeric polypeptide including:

(i) a first polypeptide region being capable of specifically binding at least one detectable molecule; and

(ii) a second polypeptide region being capable of specifically binding the biological component or macromolecule of the organism; or targeting into a specific cell compartment; and

(b) exposing the organism to said detectable molecule under conditions suitable for binding of said detectable molecule to said first polypeptide region thereby highlighting the cell compartment biological component or macromolecule in the organism.

17. (original) The method of claim 16, wherein the organism is selected from the group consisting of a virus, a bacterium, a protozoa, a fungus, a yeast, an algae, a plant and an animal.

18. (original) The method of claim 16, wherein step (a) is effected by expressing said chimeric polypeptide within the organism.

19. (original) The method of claim 16, wherein step (b) is effected by administering said detectable molecule to the organism.

20. (original) The method of claim 16, further comprising a step of visualizing said detectable molecule.

21. (original) The method of claim 20, wherein said visualizing is effected using a microscope.

22. (original) The method of claim 21, wherein said microscope is equipped with a light source.

23. (withdrawn) A method of identifying a phenotypic abnormality in a subject comprising:

(a) providing a chimeric polypeptide to the subject said chimeric polypeptide including:

(i) a first polypeptide region being capable of specifically binding at least one detectable molecule, and

(ii) a second polypeptide region being capable of specifically binding a biological component or macromolecule being indicative of the phenotypic abnormality; and

(b) exposing the subject to said detectable molecule under conditions suitable for binding of said detectable molecule to the said first polypeptide region thereby highlighting said biological component or macromolecule and identifying the phenotypic abnormality in the subject.

24. (withdrawn) The method of claim 23, wherein the subject is a plant or an animal.

25. (withdrawn) The method of claim 23, wherein the subject is a human.

26. (withdrawn) The method of claim 23, wherein step (b) is effected by administering said detectable molecule to the subject.

27. (withdrawn) The method of claim 23, wherein step (a) is effected by expressing said chimeric polypeptide within the subject.

28. (withdrawn) The method of claim 23, further comprising a step of visualizing said detectable molecule.

29. (withdrawn) The method of claim 28, wherein said visualizing is effected using a microscope.

30. (withdrawn) The method of claim 29, wherein said microscope is equipped with a light source.

31. (withdrawn) The method of claim 23, wherein the phenotypic abnormality is associated with a disease.

32. (withdrawn) The method of claim 23, wherein the phenotypic abnormality is associated with cancer.

33. (withdrawn) The method of claim 23, further comprising the step of comparing a pattern or intensity of said highlighting in the subject to that of a normal subject.

34. (withdrawn) A method of identifying the presence of an infectious agent in a subject comprising:

(a) providing a chimeric polypeptide to the subject, said chimeric polypeptide including:

(i) a first polypeptide region being capable of specifically binding at least one detectable molecule; and

(ii) a second polypeptide region being capable of specifically binding the infectious agent or targeting into the infectious agent; and

(b) exposing the subject to said detectable molecule under conditions suitable for binding of said detectable molecule to said first polypeptide region thereby highlighting the infectious agent and identifying the presence thereof in the subject.

35. (withdrawn) The method of claim 34, wherein the infectious agent is selected from the group consisting of a virus, a bacterium, a protozoa, a fungus, a yeast, an algae, a plant and an animal.

36. (withdrawn) The method of claim 34, wherein step (b) is effected by administering said detectable molecule to the subject.

37. (withdrawn) The method of claim 34, wherein step (a) is effected by expressing said chimeric polypeptide in the subject.

38. (withdrawn) The method of claim 34, further comprising a step of visualizing said detectable molecule.

39. (withdrawn) The method of claim 38, wherein said visualizing is effected using a microscope.

40. (withdrawn) The method of claim 39, wherein said microscope is equipped with a light source.

41. (withdrawn) The method of claim 34, further comprising the step of comparing a pattern or intensity of said highlighting in the subject to that of a subject not infected with the infectious agent.

42. (New) The method of claim 16, wherein said first polypeptide region comprises a single chain Fv and said second polypeptide region comprises S-AKAP84.